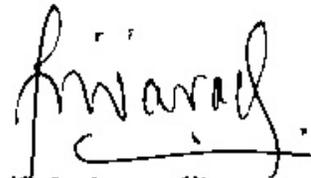


Note of Shri S.A. Awaradi, Member of Expert Committee

As a member of the Expert Committee, I feel that the mandate assigned to the Committee - to clearly spell out in its report the reasons which according to it, have caused such change in the behaviour of Jarawas and suggest remedial measures to enable the Central Government and the A & N Administration to formulate plans and programmes to save the Jarawas from the danger of total extinction or of losing their identity and culture by merger with the vast humanity of the so-called civilized society - has not emerged so clearly in its report.

Therefore and in pursuance of the decision of the Committee which met on 14-7-2003, this Note enclosing the Report on Jarawas is submitted. The report is drafted keeping in view the clear directions contained in the judgement order dated 9-4-2001 of the Hon'ble High Court of Calcutta. Further, it is noted that there is an urgent need for concrete and viable remedial measures for well-being of the Jarawas.



(S.A. Awaradi)

Member of the Expert Committee

21-7-2003

The Jarawa Tribe of Andaman Islands



S. A. Awaradi

**Andaman and Nicobar Administration
Port Blair
2003**

Preface

1. In pursuance of the order of the Honourable High Court of Calcutta, dated 9-4-2001, in W.P.No.48 of 1999 in Public Interest Litigation (Shyamali Gangully – Vs- Union of India and Others) the Ministry of Home Affairs, Govt. of India, constituted an Expert Committee, headed by Lieutenant Governor of the Andaman and Nicobar Islands vide Notification No. U-14040/24/99-ANL dated 21-7-2001. The composition of the Committee was as under:

- (i) Shri N. N. Jha, Lieutenant Governor, A&N Islands.
- (ii) Shri K. B. Saxena, former Secretary, Ministry of Social Justice and Empowerment, Government of India.
- (iii) Dr. R. K. Bhattacharya, former Director, Anthropological Survey of India.
- (iv) Dr. (Mrs.) Namita Ali, Director of Health Services, A & N Administration.
- (v) Dr. (Mrs.) Indira Chakrabarty, Director, Department of Biochemistry and Nutrition, All India Institute of Hygiene and Public Health, Kolkata.
- (vi) Shri S. A. Awaradi, Director, Tribal Welfare, A & N Administration.
- (vii) Shri Som Naidu, Assistant Commissioner, Mayabunder, A&N Administration.
- (viii) Shri Deepak Tyagi, Director-in-Charge, Anthropological Survey of India (inducted in November 2002).

2. A summary of chronological account relating to the study of Jarawas and preparation of this report is as follows:

3. The Jarawa is one of the six Scheduled Tribes of Andaman and Nicobar Islands. The Jarawas were hostile to all outsiders in the past. Contact Team of Andaman and Nicobar Administration established friendly contact with the Jarawas of Middle Andaman Island in 1974 and similar friendly contact with the Jarawas of South Andaman was established in 1989. However, Jarawas continued to profess hostility to all others except contact expedition teams, which periodically visited Jarawa areas with gifts. The Jarawas used to attack the non-tribals entering Jarawa habitat. They occasionally raided the settlements of the non-tribals in night hours to shoot down with their arrows the sleeping person and escape into their forest abode collecting few metal items from village.

4. A Jarawa boy named Enmei one day in April 1996 met with an accident during his usual hunting-gathering activities and was found immobilised due to leg bone fracture in the fringe area of Kadamtala village, Middle Andaman Island. The A & N Administration extended him prolonged medical treatment at G.B. Pant Hospital, Port Blair. Enmei was sent back home in October 1996 with lot of gifts after he recovered.

5. In October 1997 Enmei with few other Jarawas came to Uttara Jetty in Middle Andaman in broad daylight. It was the first time that the Jarawas came out of their forest abode in daylight and in a friendly way. In October 1998, Jarawas of South Andaman also repeated the behaviour of Jarawas of Middle Andaman by coming out of their forest habitat in daytime.

6. When the naked Jarawas unarmed with their usual bows and arrows started coming to the villages and on to the Andaman Trunk Road (ATR), the non-Jarawas started giving them eatables, cloths and later other items believing that they are driven by hunger and poverty. The Jarawas, especially the children, found such interaction with the non-Jarawas as an interesting affair. They started frequenting such areas more often.

7. Miss Shyamali Ganguly, an Advocate of High Court of Calcutta felt that the Jarawas were accepting the clothes, eatables, and medicines because of shortage of food and disease prevailing among them. She filed a Public Interest Litigation,

W.P.No. 48 of 1999 in the High Court, seeking an order in nature of *mandamus*, directing the Government to provide all sorts of facilities and rehabilitating them as it was done for the Onges and the Great Andamanese of the Andaman Islands.

8. In May 1999 an interim order was passed by the High Court appointing Sri N. C. Ray, Secretary, Tribal Welfare, and Dr. B. S. Banerjee Director (IP&T), A & N Administration, as the Special Officers of the High Court directing them to submit a report on the problems and suggesting the ways and means for their rehabilitation / welfare. In June 1999, the Special Officers submitted their report.

9. Not satisfied with the report of the Special Officers, the Division Bench of High Court declined to accept it. The Division Bench referred the entire gamut of the Jarawa problem to an Expert Committee in February 2000 requiring it to submit its report within six months. The Committee was constituted by the High Court itself and the composition of the Committee was as under:

- i) Dr. R.K. Bhattacharya, Ex. Director, Anthropological Survey of India, Kolkata.- Member
- ii) Shri. Kanchan Mukhopadhyay, then Head of Office, Anthropological Survey of India, Port Blair. - Member
- iii) Dr. (Mrs.) Namita Ali, Director of Health Services, A & N Administration, Port Blair. - Member
- iv) Dr. R.C. Kar, Medical Officer-in-Charge, Primary Health Centre, Kadamtala. - Member
- v) Dr. (Miss) Anima Burman, Medical Officer-in-Charge, Bharuka Charitable Trust Clinic, Port Blair. - Member
- vi) Chief Judicial Magistrate, District and Session Court, Port Blair, Member Secretary.

10. The above said Committee submitted its report. After going through the report the Division Bench of the

High Court felt in April 2001 that the following fundamental issues about the Jarawas need to be decided upon:

- a) Whether the Jarawas should be isolated from rest of the humanity and left to themselves to lead their own way of life as they did a few years back, or
- b) Whether the Jarawas should be brought into main stream of the 'civilisation', or
- c) Whether to ensure their peaceful co-existence as suggested in the Master Plan for Welfare of Primitive Tribes of A & N Islands prepared by Sri S.A. Awaradi, Director, (TW), A&N Administration.

11. The Division Bench observed that these fundamental issues could be settled as a matter of policy decision of the Government. The Government cannot take such decision alone but only after taking into account the views and suggestions of the experts of National and International repute in the related fields.

12. The said Division Bench in its 60 page Judgement-order dated 09-04-2001 has further ordered that the Ministry of Home Affairs, Government of India should constitute a Committee of Experts to study and spell out in clear terms:

- (a) Reasons for the sudden change in the behaviour of the Jarawas, i.e., shedding their hostility, coming out of their forest abode in broad day light and accepting the exogenous items from non-Jarawas and,
- (b) To suggest the remedial measures for the welfare of the Jarawas.

13. In pursuance of the said Judgement –Order of High Court, the Ministry of Home Affairs, Government of India, constituted this Committee of Experts in July 2001. The Committee met on following dates:

- | | |
|--------------|--------------|
| ▪ 10.09.2001 | ▪ 17.07.2002 |
| ▪ 06.11.2001 | ▪ 29.11.2002 |

- 29.01.2002
- 18.03.2002
- 05.04.2002
- 24.01.2003
- 27.03.2003
- 29.05.2003
- 14.07.2003

14. The Committee decided on 10.9.2001 to get the Jarawas studied / surveyed through multi-disciplinary research teams in three phases to cover all seasons of an year. The Departments involved in the survey were:

- Anthropological Survey of India,
- Botanical Survey of India,
- Forest Department, A & N Administration,
- Directorate of Health Services, A & N Administration,
- All India Institute of Hygiene and Public Health, Kolkota.
- Zoological Survey of India.

15. The Directorate of Tribal Welfare, A & N Administration and Andaman Adim Janjati Vikas Samiti, commonly referred as AAJVS, a Government funded autonomous organization headed by Lt. Governor of A&N Islands engaged in welfare of primitive tribes of these islands acted as nodal agencies in course of the study.

16. To ensure that the entire Jarawa population is studied, the multi-disciplinary Composite Group was divided into three teams; to cover the three broad territorial habitats of the Jarawas simultaneously. In order to understand the probable seasonal variations in their subsistence, health and behavioural aspects of the Jarawas, the study was conducted in three phases, roughly corresponding to the three major seasons i.e. post-monsoon, summer, and monsoon of the islands.

17. The members of the teams were appraised about the issues to be covered during the survey. The holistic approach to study the hunting- gathering Jarawa tribe was impressed upon the teams through brief training and orientation before the start of each phase of survey. The concerned Departments prepared draft survey report following every phase of the study so that the Expert Committee could discuss it to improve and refine the techniques of the survey.

18. The respective Sectoral Departments prepared combined report on the basis of three phases of survey among the Jarawas. Anthropological Survey of India compiled these combined reports into one integrated report. The report was discussed in the Workshop at Port Blair on 23.1.2003 by the selected researchers who conducted the survey, Members of the Expert Committee and others. In course of the discussion in the Workshop there emerged certain inconsistencies within the reports submitted by Sectoral Departments.

19. The Expert Committee which met on 24.1.2003 decided, *inter-alia*, that the inconsistencies are to be thrashed out and an integrated report issue-wise in place of discipline-wise be drafted by S.A.Awaradi for the Expert Committee which shall be circulated among the members of the Committee for their perusal and concurrence with comments / remarks, if any.

20. This report though primarily based on the study of the Jarawas undertaken in pursuance of the order of the Hon'ble High Court of Calcutta, the issue that came up was whether the studies carried out among similar communities elsewhere should be kept in view or otherwise while writing the report. The other hunting and gathering communities which existed in Andaman and Nicobar Islands and elsewhere in the world have been studied by the ethnographers and other scientists. Such communities had reached the cross-road in course of their journey to the modern times and most of them lost their biological form or cultural identity. So the studies and lessons learnt from the experience relating to such communities would logically be relevant as a back-drop for the Jarawa matter in hand.

21. With the Jarawa issue having gone international various opinions and suggestions have flooded in from many parts of the globe which demanded careful attention. This leads us to an ever debatable ethical issue – what right **DO** we have to determine the destiny of the Jarawas ? This should immediately be followed by an yet more pointed question to ourselves – what authority and sanction **DID** we have to interfere into the life of the Jarawa community ? Is it not **“our”** burden to mend the mess created intentionally or unintentionally by **us** so that the Jarawas can exercise their inherent right for self-determination for sustainable self-reliance ?

22. This in-turn may lead us to pick up the third option “the peaceful co-existence” that the High Court of Calcutta has mentioned in its order dated 9.4.2001 to set the course for us. We, in the present day world have already set on the race for self prosperity in physical and metaphysical spheres. But critically important issue is that this “race course” of ours should not criss-cross the “path” followed by the Jarawas time immemorial. So measures have been suggested that should fall into the line of the course chosen to set by involving all the stake holders in the Jarawas affairs.

21-7-2003

S. A. Awaradi
Member of Expert Committee

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Chapter – 1

Introduction

General

1.1 Today, the Jarawa is one of the six aboriginal tribes of Andaman and Nicobar Islands. Jarawa is the hunting and gathering tribe belonging to the Negrito race inhabiting western parts of Middle Andaman and South Andaman Islands in the District of Andamans. It is pertinent to understand first as to what is “tribe”.

1.2 The ‘tribe’ is a people at a distinct techno-economic stage vis-à-vis neighboring reference community of a national mainstream. As a matter of fact, the comparative level of technology of a tribe is low to its surrounding, often the dominant community. This is more so in case of the primitive isolated tribes, which was revealed in course of civilized man’s quest for new worlds and horizons. During the British colonial era, the general policy of laissez-faire was adopted especially concerning small primitive tribes though the policy was applied with difference as far as larger tribal communities were concerned to the extent of colonial interest. But nonetheless the inroads towards these once largely insulated communities began during the colonial regime itself and thereby the boggy train of socio-economic change has set in.

1.3 The Andaman and Nicobar archipelago consisting of 556 small and big islands and rocks is aligned North-South in the form of broken chain between Cape Negrais (of Myanmar) in North and Acin Head in Sumatra (of Indonesia) in South, former being situated 192 Km from Northern tip of Andamans and latter 144 k.m. from Southern tip of Nicobars. Preparis and Cocos are two small Islands, interjecting between Cape Negrais and Andamans. The Archipelago is situated in the Bay of Bengal between 60 and 140 North latitude and 920 and 940 East longitude. There are two groups of Islands viz. Andamans

and Nicobars separated by 100 channel. The Andaman group of Islands covers a gross length of 350 km while Nicobars cover approximately 262 km.

1.4 The available geological evidence leads us to assume the possibility of geological period when the Andaman and Nicobar Islands formed a range between Myanmar and Sumatra. The Andaman group of Islands with Preparis and Cocos formed one continuous hill connecting this with Myanmar through Cape Negrais. The range was separated from Nicobar the other continuous Island by a strait of say 400 fathoms deep and 144 km wide commonly known as Ten Degree Channel. Further in South, the Nicobar Island was separated from Sumatra by yet another strait of 600 fathoms deep and about 48 km wide.

History

1.5 The knowledge about the existence of the Andaman Islands in the Bay of Bengal dates back to the second century when Cladius Ptolemy first published an Atlas. 1-Tsing, a Chinese Buddhist monk made brief reference about Andaman islands in 672 A.D. Two Arabian travelers who passed by the Andaman Islands in the ninth century have referred to these Islands and their inhabitants. Later there were some descriptions about the Andaman Islanders in thirteenth and fourteenth centuries. For example, Marco Polo reported that the inhabitants of Andaman Islands have head like that of the dog with teeth and eyes likewise! They are most cruel generation; and eat every body that they catch if not of their own race (Yule, 1903 :309). Later, Frair Odoric in 1322, Nicolo Conte in 1430, Master Cesare Federici in 1566 and others who traveled across this region have also described the Andaman Islands. However the descriptions available on the Islanders recorded during second to seventeenth centuries stand in high contrast to the actual cultural pattern.

1.6 As such, the history of Islanders was largely unknown till the British Colonists established a base in Andaman Islands in 1789 (Dutta 1978: 3) British East India Company directed Lt. Archibald Blair to survey and occupy the Andamans mainly for providing safe Harbour to its, ships in the

monsoons. Accordingly a base was founded here in 1789 which was to be developed with convict labour. However this colony was closed in 1796 because the settlers found it extremely malarious and hence inhospitable and moreover the East India Company discovered it to be expensive to be maintained. Thereafter, the Company lost all interest in the Andaman Islands.

1.7 However, subsequent historical event of 1857, Indian Mutiny prompted the Governor General to re-occupy the Andamans and found a Penal Settlement. The Penal Settlement was founded accordingly in March 1858 which was administered by the British Superintendent. The rank of the administrator of this settlement was raised to the Chief Commissioner in 1872. The Andaman and Nicobar Regulations of 1874 was drafted, placing the settlement judicially under the Government of India, instead of under the High Court of Calcutta, and making provisions for the release of the life time convicts after 20-25 years of penal servitude if they showed good conduct.

1.8 Gradually the settlement expanded with the release of convicts who were encouraged to bring their families from mainland to settle in Andamans. The settlers as well as aborigines of Andaman and Nicobar Islands had a traumatic experience during Second World War when the Islands were occupied by Japanese troops from 21st March, 1942 to 8th October, 1945. The British regained the territory after the war, which they held till 15th August 1947 when India became independent. A&N Islands constituted the 'D' class State after independence and the Union Territory since 1956.

Jarawa Land, Climate and Vegetation

1.9 The Jarawa tribe is found inhabiting the western region and coastal belt of South Andaman and Middle Andaman Islands at present. An area of approximately 649 Sq. Km (Kumar 2002 : 58) has been notified as "tribal reserve" under A&N Islands (Protection of Aboriginal Tribes) Regulation 1956 vide notification No. ANDATR/3(r)/1 dated 02/04/1957 No. 107/79 F. No. 40-243/78-TW dated 19/07/1979 F. No. 1-324/82-TW dated 09/04/1984. The coastal waters from High tide mark upto, 3 K.M. around the Jarawa land has also been declared as tribal reserve

under the said Regulation vide Notification No. 107/79 F. No. 243/78-TW dated 19/07/1979.

Climate

1.10 The climate of the islands is tropical *i.e.*, warm, moist and equable. The proximity of sea and abundant rainfall prevent extremes of heat. The variation of temperature on these islands is rather low (23°C - 31°C). Climatically these islands are more or less uniform and variation in elevation is small. The tropical rain forest vegetation is mainly the function of the climatic or edaphic factors. The average annual rainfall is 320 cms and average relative humidity is 80%.

Vegetation

1.11 Very luxuriant and rich vegetation has developed in the area marked as Jarawa Reserve, which can be broadly classified into the following types:

- Giant Evergreen Forest,
- Tropical Evergreen Forest,
- Hill-top Tropical Evergreen Forest,
- Semi-Evergreen Forest,
- Moist Deciduous Forest,
- Littoral Forest,
- Mangrove Forest.

1.12 The, cane brakes and bamboo brakes grow in small patches. Except mangrove forests all other types of forests cannot be distinctly demarcated, as they imperceptibly merge.

1.13 The Giant Evergreen Forest is the most luxuriant type of multi-storied forest. The top canopy is formed by the giant trees, which are almost entirely evergreen. They develop near the banks of larger streams where soils are deep and alluvial.

The main tree species found in this type of forest are *Dipterocarpus* sp. (Gurjan), *Callophyllum soulattri* (Poon), *Artocarpus chaplasi* (Taungpienne), *Sideroxylon longepetiolatum* (Lambpatti), *Amoora wallichii* (Lalchini), *Sterculia campanulata* (Papita), etc.

1.14 The Tropical Evergreen Forest is somewhat similar in composition of vegetation with the above type but is less luxuriant in terms of size of the top storey, their density and height. Further, the top storey is irregular in outline and deciduous tree species are seldom seen in this type of forest. This type of forests are noticed as caps of the hills while the slopes bear moist deciduous forests. *Dipterocarpus* sp., *Artocarpus chaplasi*, *Artocarpus gomeziana* (Kala lakuch), *Callophyllum soulattri*, *Panconia andamanica* (Red Bombway), *Hopea odorata* (Thingam), *Endospermum chinense* (Bakota), *Baccaurea sapida* (Khataphal), *Myristica andamanica* (Jaiphall), etc. are the main tree species occurring in this type of forest.

1.15 The Hill-top Tropical Evergreen Forest occurs on hilltops and sometimes on steep slopes lower down on poorer soils. They are usually exposed to high winds and the trees are somewhat stunted in growth. The main tree species occurring in these forests are: *Dipterocarpus costatus*, *Mesua ferrea*, *Canarium mani*, *Hopea helferi*, *Cratoxylon formosum*, *Euphorbia trigona*, etc.

1.16 The Semi-Evergreen Forest includes giant trees of both deciduous and evergreen species. Climbers are also common. This type of forests occur on well-drained immature soils, mainly on tableland. *Dipterocarpus* sp., *Pterygota alata* (Letkok), *Terminalia bialata* (White chuglam), *Terminalia procera* (White Bombway), *Pterocarpus dalbergioides* (Padauk), *Lagerstroemia hypoleuca* (Pyinma), *Albizia chinensis* (Bonmeza), *Albizia lebbek* (Koko), *Artocarpus lakoocha* (Didu) are the main tree species in this forest.

1.17 The Moist Deciduous Forest is multi-storeyed, top canopy of which is formed by giant trees of about 40 m. height, 3 m. girth and heavily buttressed. They occur on hilly ground but not beyond 100 m. altitude. *Pterocarpus dalbergioides* (Padauk), *Diospyros marmorata* (Marblewood), *Sageraea elliptica* (Chooi), *Canarium euphyllum* (White dhup), *Albizia lebbek* (Koko),

etc. are the main tree species in these forests. This type of forests are the important source of many valuable commercial timbers.

1.18 The Littoral Forest grows on high-level soil along the coastline beyond the reach of tidal waters. The common tree species found in this type of forests are: *Mimusops littoralis* (Bullet wood), *Tetrameles nudiflora* (Thitpok), *Terminalia calappa* (Badam), *Pongamia glabra*, etc.

1.19 Mangrove Forest extensively occupies the shores, mouth of creeks, inland channels, etc. *Rhizophora mucronata*, *R. apiculata* and *R. stylosa* are the main plant species occupying the outermost seaward fringes and form dense clusters. *Bruguiera parviflora* and *B. gymnorrhiza* are the prominent plant species in the brackish water swamps that sometimes extend from sea mouth and are connected by creeks penetrating deep. Climatically these islands are more or less uniform and variation in elevation is small. The tropical rain forest vegetation is mainly the function of the climatic or edaphic factors. into the interior. Other mangrove plants e.g., *Sonneratia* sp. extend upto some distance inland into the tidal forests, whereas *Avicennia officinalis*, *Heritiera littoralis*, *Scyphiphora hydrophyllacea* are seen towards the landward side of mangrove swamps.

1.20 A notable feature of the ecology of the tropical rain forest of the South and Middle Andaman Islands is that tropical rain forest environment of these islands is diverse floristically and devoid of large wild life except wild pig (*Sus scrofa*), monitor lizard (*Veranus salvator andamanensis*), spotted and barking deer. The Jarawas who inhabit such a diverse biotic environment are found to rely upon a range of plants and animals to fulfil their requirements.

1.21 Because of absence of large carnivores, the forests of Andamans are safe for movement of humans. There are, however, few poisonous snakes present in these islands and common among them is banded krait (*Bungarus andamanicus*). Pit vipers (*Trimeresurus cantori*, *T. purpureomaculatus andersoni*) are also well represented here. The Jarawas are quite conscious about the danger from these snakes. They are quite afraid of centipede (*Scolopendra subspinipes dehaani*), bite of which is quite painful. The centipedes are commonly noticed during the monsoon.

Mosquitoes and biting midges are quite abundant in all mangrove areas and swamps. The salt-water crocodile (*Crocodilus porosus*) is available in almost all tidal creeks of Andaman Islands and the Jarawas are quite afraid of this animal.

Expert Committee on Jarawa

1.22 The Hon'ble High Court of Calcutta in the Public Interest Litigation in W.P.No. 48 of 1999 (Shyamaly Ganguly – Vs- Union of India and others) through its judgement order dated 9.4.2001 passed the following directions upon the Central Government as also up on the Administration of Andaman & Nicobar Islands:

1.23 The Central Government through the Principal Secretary, Ministry of Home Affairs, within two months from the communication of this order shall form a Committee of Experts with the Lieutenant Governor of the Islands as the Convenor, comprising of renowned Anthropologists, Sociologists, Nutrition experts, Doctors, for immediately undertaking scientific study; research and survey in change in the behaviour of the Jarawa and to find out the cause of the same. The decision in this regard has to be taken by the Home Secretary and not by any of the Secretaries of the Home Department, in consultation with the Lieutenant Governor. Apart from including in the said Committee noted Anthropologists, Sociologists, Nutrition experts, persons having acquaintance with the Jarawa language and with their behaviour and culture also must be included in the said Committee Mr. Awaradi who prepared the Master Plan, having already undertaken a detailed work in respect thereof on behalf of the Andaman & Nicobar Islands Administration.

1.24 The Committee was to submit its report within six months from the formation before the Central Government and the Lieutenant Governor, Andaman & Nicobar Islands and also file a copy thereof before the Circuit Bench of Court. It was necessary for the Committee to clearly spell out in the report the reason which according to them has caused such change of behaviour of the Jarawas and their suggestion relating to remedial measures to be taken in respect thereof.

Chapter – 2

Study of the Jarawas by Expert Committee

2.1 The Expert Committee as constituted by Ministry of Home Affairs, Govt. of India through their Notification No.14040/24/99-ANL dated 21st July 2001, in pursuance of the order of the Hon'ble High Court of Calcutta, comprises of the following.

- (i) Shri N. N. Jha, Lieutenant Governor, A&N Islands - Convenor
- (ii) Shri K. B. Saxena, former Secretary, Ministry of Social Justice and Empowerment, Government of India.
- (iii) Dr. R. K. Bhattacharya, former Director, Anthropological Survey of India.
- (iv) Dr. (Mrs.) Namita Ali, Director of Health Services, A & N Administration.
- (v) Dr. (Mrs.) Indira Chakrabarty, Director, Department of Biochemistry and Nutrition, All India Institute of Hygiene and Public Health, Kolkata.
- (vi) Shri S. A. Awaradi, Director, Tribal Welfare, A & N Administration.
- (vii) Shri Som Naidu, Assistant Commissioner, Mayabunder, A&N Administration.
- (viii) Shri Deepak Tyagi, Director-in-Charge, Anthropological Survey of India (inducted in November 2002).

2.2 The mandate as per the Notification assigned to Expert Committee was to spell out clearly in its study report, the reasons which have caused sudden change in the behaviour of the Jarawas and suggest remedial measures, to

enable the Central Government, A&N Administration to formulate the plans and programmes to save the Jarawas from the danger of total extinction or of losing their identity and culture by merger with the vast humanity of the so called civilised society. The Expert Committee was required to take note of the issues and views which have been discussed in the judgement-order dated 9.4.2001 of the Hon'ble High Court of Calcutta in the Public Interest Litigation concerning to Jarawas.

Issues referred to Expert Committee by High Court

2.3 Hon'ble High Court Calcutta in its Judgment Order dated 09/04/2001 noted certain issues given below for study and report by the Expert Committee :

Whether the Jarawas as a community / tribe need to be confined within their own territory or should be brought out and merged in the mainstream population; whether Jarawas need to be restrained from moving on the Andaman Trunk Road to avoid any accident either to themselves or to others; does Jarawa territory require to be demarcated and declared distinctly and clearly as a prohibited area and consequential action to be taken with regard thereto; whether there is any shortage of food articles and / or other life-saving material in the Jarawa territory and if so, to suggest remedial measures; whether there is any threat of poaching inside the Jarawa territory and if so, to suggest means to prevent the same.

Whether all the contacts between the Jarawas and outsiders should be stopped totally or should be restricted to authorized personnel, as suggested in the Master Plan. The main and fundamental issue is whether any attempt whatsoever directly or indirectly should be made to bring the Jarawas to the so-called mainstream of the society and to bring them within the fourfold of civilized society or they should be left undisturbed in their own habitat to pursue their own lives as a hunter and gatherer nomadic tribe and to pursue their own culture and therefore all steps should be taken only to protect their habitat to preserve their way of life and their culture.

It will be necessary to ascertain whether such change of behaviour is really the expression of desire of such Jarawas, who are coming out on the open to accept the way of life of the so-called civilized society and if yes, whether such desire is of the entire Jarawa community, as sought to be contended by the petitioner Miss Ganguly or has resulted from shortage of food for them in the Jarawa habitat or to obtain occasional medical help or mere stray incident caused because of the failure of the Administration to give them proper protection in their own habitat taking suitable measures against the poachers and the encroachers upon Jarawa's land causing further shrinkage of their territory and therefore, is really the result of compulsion.

Opinions of some experts as contained in the Judgment-Order of High Court

2.4. Dr. James Woodburn, an Anthropologist, Department of Anthropology, London School of Economics has opined that the present situation of Jarawa, in which they are for the first time having extensive contacts with outsiders, should be treated as a medical emergency. An immunization programme should be put into effect with the utmost urgency as according to him it has been found that when previously isolated or even relatively isolated, people will become ill and many may die as such people living in isolation are unlikely to have had exposure to many of the common infectious diseases like influenza, chicken pox, measles, whooping cough and many others. Therefore, when the isolated population group comes into contact with outsiders, because of lack of immunity they acquire illness which often lead to their death and ultimately extinction. He has further strongly opined that the Jarawas should be left to decide their future and the role of the Administration in the present situation is to safeguard with all possible rigour, their rights to land, their health, their security and their ability to live self-dependent lives.

2.5. Dr. Vishwajit Pandya, also an anthropologist and belonging to the Department of Anthropology, Victoria University, Wellington, New Zealand has opined that the contact of Jarawas with the outside world, as happened in Kadamtala region, is inevitable and the same needs to be made

culturally safe and controlled. He has further opined that it is to be understood first and foremost that the culturally unsafe but inevitable contact between the Jarawas and the outside world must be stopped or controlled and systematic effort must be made to formulate a long term plan for the Jarawas.

2.6. Stephen Corry, Director General of Survival International has criticized the widespread belief that hunter gatherer nomads are 'backward' and in need of both improvement and the benefits of modern society. In his opinion such an idea is a racist notion based on ethnocentric thinking which does not stand up to objective scrutiny and which is now a days discredited by most social scientists. He has further opined that the settlement of the Jarawa at this time when their free and informed consent obviously cannot be secured, would constitute a violation of their human rights and the same may wipe out the Jarawas because of disastrous contact with the outside world which would amount to genocide in terms of the U.N. Convention on the Prevention and Punishment of the Crime of Genocide to which India is a signatory.

2.7. Dr. Terence Turner, Professor of Anthropology, Cornell University, Ithaca, NY, USA has opined that uncontrolled contact of the Jarawas with the outside world poses medical dangers and the threat of violent incidents, already endemic in response to the incursions of poachers in the reserve.

2.8. Dr. Thomas N. Headland, an Adjunct Professor, University of Texas at Arlington has opined that the Jarawa will inevitably change in the coming years, as they come into more contact with outsiders, but such process will be slow and they must be allowed the freedom to make their changes voluntarily and at their own pace and no change must be imposed on them and the borders of their reserve must be retained or restored to their 1957 limits and they must be protected from encroachment.

2.9. It may be noted that the Hon'ble Judges in their Judgment – Order dated 9.4.2001 have observed as under :

In our view in this connection a reference should also be made to Master Plan which was prepared for the

welfare of primitive tribes of Andaman and Nicobar Islands for the period 1991-2021 by Shri S.A. Awaradi. The said Master Plan after discussing all aspects of the different problems faced by the Jarawas indicates that the eco-cultural-equilibrium of the Jarawa tribe is destabilized by the non-autochthons. Therefore, the basic tenet of the Master Plan for the Jarawas is to stop further action of the destabilizing forces, re-stabilize the eco-cultural- equilibrium and build up a self defense to co-exist with the mainstream culture.

In the said Master Plan it has been opined that the existing system of protection of the Jarawas against the unauthorized activities of the encroaches requires revamping, “Buffer Zone” is to be carved out at the periphery of the settlement area, separating it from the Jarawa territory to prevent every infiltration into the latter and vice-versa too thereby squaring off the Jarawa problem of the non-tribals as well. The Buffer Zone administration is the martial strategy based on the principle of non-interference in each other’s territory. Such a Master Plan for the Jarawa has three primary sectors namely, subsistence, health and culture and is devised for 30 years and beyond. In the said Master Plan the author has discussed in detail how management has to be made for subsistence, health and culture for the Jarawas. He has also discussed in detail how such Buffer Zone has to be created and in his Master Plan he has also discussed both short term, mid term, and long term measures for ensuring the subsistence and protection of the health and culture of the Jarawas.

Such suggestions have been made in support of his theory of peaceful co-existence between the Jarawas and the non-tribals of the Andaman & Nicobar Islands. He has opined that the Jarawas may not withstand destabilizing forces particularly exploitive forces of the mainstream culture and the unauthorized persons may visit the Jarawas with gifts and may easily exploit them as they are simple people and thereby the Jarawas may turn victim of the powerful exploitative elements. Therefore, culture management strategy is to prevent the exposure of the Jarawas with their present state of culture to the mainstream cultures till they are equipped for co-existence, without being victims of exploitative forces.

Modality of the Study by Expert Committee

2.10. The Expert Committee having understood the mandate given to it by the Hon'ble High Court formed an opinion that a longitudinal observation / study for at least one year to cover all seasons in an year is not only desirable but essential before the Committee comes to a firm conclusion about the behavior and other aspects of the Jarawas. So it was decided to set up multi-disciplinary Composite Groups to survey and study the following aspects of the Jarawas for an year:

- Resources available for Jarawas
- Health and Nutrition of Jarawas
- Culture and behavior of Jarawas.

2.11. The Committee further decided on 10.9.2001 to get the Jarawas surveyed through multi-disciplinary research teams involving the following Departments:

- Anthropological Survey of India,
- Botanical Survey of India,
- Forest Department, A & N Administration,
- Directorate of Health Services, A & N Administration,
- All India Institute of Hygiene and Public Health, Kolkota.
- Zoological Survey of India.

2.12. To ensure that the entire Jarawa population is studied, the multi-disciplinary Composite Group was divided into three teams; to cover the three broad territorial habitats of the Jarawas in South Andaman and Middle Andaman Islands simultaneously. In order to understand the probable seasonal variations in their subsistence, health and behavioural aspects of the Jarawas, the study was conducted in three phases, roughly corresponding to the three major seasons i.e. post-monsoon, summer, and monsoon of the islands, as under :

- The first phase of the study was carried out between December 10, 2001 and January 9, 2002, during the period when the second i.e. North-East monsoon was just over.

- The second phase was carried out between April 12, 2002 and May 10, 2002, which was the dry part of the year.
- The final and third phase of the study was conducted between August 10, 2002 and September 9, 2002, when the first monsoon was active.

Methodology of Study

2.13. The emerging Jarawa situation was extremely complex having no parallel examples elsewhere in the world when it was assigned to Expert Committee to study it. The ultimate purpose of the task given to the Expert Committee aimed at saving the Jarawa tribe an unique community and the world human heritage. It was not a routine academic study. Therefore the job of the Expert Committee was stupendous not only because it involved human value judgment but also it had many and severe constraints like language barrier, volatile field situation of interface between the Jarawas and the people belonging to so called civilized society.

2.14. The study encompassed every aspect of the Jarawa tribe - its biology as a small human population, its culture having evolved by the hunting and gathering tribe distinct from the rest of the humanity and having no problem of survival till the other day. So the study involved many subject matters concerning the life of the society of the Jarawa Tribe.

2.15. The Members of the Expert Committee belonged to different profession and hence they have had the training and experience in their own field. The framework and issues of the study of the Jarawa were deliberated at length by the Expert Committee. Two sets of the frame- works, one designed by Dr. S. B. Chakrvorthy, Deputy Director, Anthropological Survey of India and the other by Shri S. A. Awaradi, Director (TW), A&N Administration (vide annexures) were discussed and former one was adopted .

2.16. The survey was conducted through the multi-disciplinary teams belonging to Anthropological Survey of India, Botanical Survey of India, Forest Department, Health Department, Zoological Survey of India. The Anthropological Survey of India having been traditionally concerned with the holistic study of the tribes, was assigned the task of academic co-ordination during the survey in the field. Since the study of the Jarawas was a unique with fluid field situation, the techniques of the study were discussed and refined based on the experience of each phase of survey.

Study of Culture and Behaviour

2.17. The Anthropological Survey of India was engaged in the study of behavioural aspects of the Jarawas. Ten researchers including a lady from various specialities of cultural, physical and human geography took up the study. Information on the social and demographic aspects of the people was collected through interview and observation. The data on their daily activities was collected primarily through observation and sometimes by participant observation. Personal experiences of several Jarawa individuals on the extent and impact of contact situation on their life were collected by interviewing them.

Survey of Natural Resources

2.18. The resources of the Jarawa Reserve were surveyed by three organisation; the Department of Forest, A&N Administration, Botanical Survey of India and Zoological Survey of India. The survey took into account such biological resources found within the defined territory, which are actually used by the Jarawa regularly or occasionally and also those which might not be used by the Jarawas, but may influence their way of living directly or indirectly.

2.19. To assess the density of forest resources, representative sample plots were laid on the ground at different locations to ensure that various forest types are covered during the survey. These types include, Littoral Forest (4A/L1), Tropical

Evergreen Forest (IA/C2), Andaman Semi Evergreen Forest (2A/C1) and Andaman Moist Deciduous forest (3A/C1)/. The plots were laid within the radius of 5 km from the location of a particular Jarawa camp during the period of survey, because the distance of 5 km was considered to be the operational territory of the Jarawas, so far as hunting and food gathering is concerned. Forest teams have also conducted status survey of the plant species in the Jarawa Reserve.

2.20. Through interaction with the Jarawas effort was made to find out the frequency of use of a particular plant species by them and through survey the availability status of the particular plants species has been projected on a broad scale of Plenty, Adequate and Scarce.

2.21. The Botanical Survey of India studied the plant resources available to the Jarawas. Collection of various plants from the forests by the Jarawas was observed by accompanying them during food gathering. Processing of various food-items, cooking and consumption practices of various plant foods were observed directly. Use of various plants for ethno-medicine was noted by direct observation. The forest type was determined by observing the dominant elements present in the forests. Abundance of plants was determined by visual census.

2.22. The Zoological Survey of India was engaged in studying the animal resources available to and utilised by the Jarawas. Physiography of the places of survey work/Jarawa settlement areas, their prominent flora and fauna, were recorded for assessment of primary resource potentiality of these places. For identification/enumeration of animal food items of the Jarawas and animal parts used by them, direct observations of diet were made; animal material gathered by the Jarawas were examined; and enquired from the Jarawas about their uses (whether edible or used otherwise).Cooking, consumption and storage practices of various animal foods were observed at the camping sites of the Jarawas.

2.23. Apparent population of various animals were assessed in different biotopes by (i) direct counting of specimens in a given area (quadrant); (ii) counting eggs in nesting places (for turtles) or grubs in a potential habitat (for beetle larvae)

(iii) man-hour output (for collection of animals like fishes, crabs, clams, etc.) Visual census was carried out for some animals like birds, water monitors, marine crabs, etc. Availability status of different animals has been categorized as Abundant, Common and Occasional . These categories have been the perceptive expressions of population sizes of the species, from the viewpoint of field biology. No distinct lines could be drawn to delineate the above grades but these can fairly express occurrence of a species in an area. This system is widely followed in population studies.

Study of Health and Nutrition

2.24. The Directorate of Health Services, A&N Administration surveyed the health and nutritional status of Jarawas at their habitat. The health and nutrition team consisted of doctors/specialists from various disciplines; laboratory technicians, pharmacists and paramedical staff. A team from All India Institute of Hygiene and Public Health, Kolkata conducted first two phases of nutritional survey, in association with a team from the Directorate, while latter attended on its own the third phase of the nutritional survey .

2.25. Necessary training for diet survey and nutritional assessment of the Jarawas was given to all the team members by experts from All India Institute of Hygiene and Public Health, Kolkata, before proceeding to the field. Necessary proforma were finalised after pre-testing. Since Jarawas are a small community, no sampling was done and attempted to cover all the Jarawas. Morbidity status on the day of contact and preceding three days was elicited by verbal autopsy and clinical examination.

2.26. Mortality status of three generations was elicited by verbal autopsy through the interviewed person, his or her parents and children by the doctors and staff of health team, who have picked up a bit of Jarawa language and also with the help of AAJVS interpreters; thus the possibility of misinterpretation is minimum as the statements were always cross checked. General and systemic health check-up of Jarawas was done. Venous blood samples were collected from willing persons and immediately transported to Port Blair for analysis.

2.27. Haemoglobin estimation and routine haematological investigation was done by Haematology Cell Counter (MS4) method. HBsAg, HIV and HCV tests were done by ELISA method, whereas VDRL test was done by latex agglutination method. All other biochemical tests were done by auto analyser. A few samples of fruits and tubers consumed by the Jarawas were collected and identified with the help of the BSI team. Family diet survey of Jarawas was done by weighment of stock, balance food sheet method, guestimate method at 6 A.M, 2 P.M and 6 P.M. for four consecutive days at each habitat.

2.28. The Ayurveda physician from Directorate of Health Services, A&N Administration, was also involved in the study. Ayurveda medicines were given to only some selected Jarawa individuals during the survey because they were not following diet and habit restrictions. Random study and Ayurveda medications were done and no statistical Ayurvedic study was done due to the time and other limitations. Many individual Jarawas were observed and those having ailments were studied in detail according to the survey Format

2.29. Health aspect of Jarawas from Homeopathic angle was studied by Medical Officer (Homeo) of Directorate of Health Services. The patient gives a list of symptoms all of which are not equal in importance, so the physician has to learn to distinguish the symptoms which are most important and which must be covered by the remedy as against those, which may be conveniently ignored. Out of Kentian, Hahnemanian, Boerick, Boenning Hausen's method and considering the limitations of the source of symptoms only Hahnemanian method is observed. i.e. general symptoms and common symptoms. Only one single simple medicine was chosen for administration, in 30th centesimal scale in acute and 200-centesimal scale potency in chronic disease. During the study altogether 204 Jarawas (male, female, old, adult, young, & new born) were examined and Homoeopathic case taking was done on the basis of the subjective symptom, objective symptom, clinical examination and pathological investigation.

Diet Survey

2.30. It was envisaged to conduct the food intake survey by weighing raw food materials that a family would consume throughout a day. However, weighing of food was not possible in most cases. It was also difficult to ascertain how a particular food item was shared in a family. Moreover, domestic animals (dog) receiving a share of some food, while its master was eating, could not be accounted for. However by thorough observational method the investigators made a guestimate of the weight of various food consumed in a family. Some foods, such as pig (cleaned and dressed), was weighed which was shared by a group of Jarawas (total heads were counted). In case of honey, the amount of honey before and after consumption from a wooden vessel could be ascertained. The actual consumption was found out after subtracting the weight of a similar vessel. In case of items like bananas or any other fruit, the number of items consumed was counted and then taking the weight of a single item the total amount consumed was estimated. The diet survey was, therefore, mainly dependent on the observational methods and guestimates.

2.31. During the second phase of survey some investigators used the food balance sheet method. This involves weighing of all food items found in a family at a fixed hour (in the morning) in two consecutive days, the difference between the two weights gave the amounts of food consumed. In addition, observational method employed in the 1st phase of survey was also used.

2.32. In the third phase, a different approach was adopted. Stock of raw and cooked food were weighted in the morning (6 am to 7 am), at mid-day (12 Noon to 1 pm) and in the evening (at 6 pm) for four consecutive days. Difference in weight of an item, if fully consumed in a day between two successive measurement of weight, was the amount consumed during the day. For the items not fully consumed before the team left in the evening, the difference in weight of the first day and the morning weight of the next day was the weight of the food consumed in the previous day. Edible parts of raw food items were calculated and in this phase of the survey water usage pattern was closely followed. After the 2nd phase of survey a special effort was made to study the food consumed by individual young children in a family. In the

third phase of the survey the breast milk feeding by nursing Jarawa mothers was closely followed from morning till evening.

Energy expenditure of young children

2.33. No separate study by using special equipment could be conducted to measure the energy expenditure of the young children. However, the investigators observed closely the various activities of the young children through out the day. An idea on the energy expenditure of the young children could be made by comparing with the activities of the non-tribal young children for whom energy requirements are known. If the various sports, games and play of the non-tribal young children are compared with mounting, climbing and gathering activities of the Jarawa children, it can be assumed that the energy expenditures of both are more or less the same.

Limitations of the study

2.34. Anthropologists were handicapped from limited knowledge of the Jarawa language. When one is not only supposed to observe the behaviour of a group of people, but also required to explain the causes responsible for behavioural changes, one is supposed to understand the thought process of the people. Without extensive knowledge of language of the people, it becomes a real difficult task. This was one of the constraints of the study, which was partially overcome by extensive observation and cross checking of collected information by repeating the exercise. Another limitation of the present study was determining the actual age of any individual while collecting demographic information on the population, though birth order, dentition and other factors were taken into consideration for estimation of age.

2.35. The Health and Nutritional survey was conducted with limited co-operation from the Jarawas. Approximate age determination of the Jarawas was done by seeing physical growth, stature, dentition and colour of the hair. Stool and urine specimen could not be collected from Jarawas due to practical problems in the field, as they were reluctant to give the same for examination in a container. Jarawas were reluctant to give

the blood samples of their young children, especially those below five years of age and also of the pregnant ladies.

2.36. Homeopathic System of Medicine had limitations like repetition of dosage was difficult due to non-availability of the persons because of their nomadic habits. They did not observe certain prescribed precautions, which might have harmed the efficacy of homoeopathic medicines. Individual features are lacking in the collected information because the finer symptoms could not be ascertained due to communication gap. Only leading questions were asked, which misled and prejudiced the prescription. Homoeopathy has limited scope in cases where irreversible organic changes or advance structural damage take place, particularly when homoeopathic drugs are discontinued before they can produce any organic change in the body. Homoeopathy had limited scope in artificial chronic diseases, which result from long continued uses of violent heroic medicine in large doses.

2.37. Due to frequent movement of Jarawas, diet survey could not be carried out continuously for four days at some places in first two phases. Food values of certain roots and tubers, fish, monitor lizard, molluscs, larvae of wood borer, various wild fruits, like gin, tangal, omiin, betfal, loke, cowfal etc. are not known. In some cases food values of similar food items from the manual of nutritive value of Indian foods by ICMR (1) were used. The present diet survey could not include the food, if any, consumed during hunting and gathering. Only those foods consumed at home were taken into account and therefore there may be an underestimation to certain extent. In case of foods, which could not be weighed, the investigators were asked to assume weight or volume from their earlier nutrition survey experiences. Therefore weight of food is a guestimate of food intake.